

Claims

1. A method of improving the crushing strength, impact resistance and the compressibility of urea granules by the addition of a compound to the molten urea, characterized in that the compound comprises both a polyvinyl compound and an organic molecule consisting of 1-10 carbon atoms and 1-10 polar organic groups.
2. A method according to claim 1, characterized in that the polar organic groups are selected from carboxylic acid, hydroxyl, amine and/or amide groups.
3. A method according to claim 1 or 2, characterized in that the polar organic compound consists of between 2 and 5 carbon atoms.
4. A method according to anyone of the claims 1 to 3, characterized in that the compound is pentaerythritol.
5. A method according to anyone of the claims 1 to 4, characterized in that the amount polar organic compound to be added in total is at most 1 wt%, based on the amount of urea.
6. A method according to anyone of the claims 1 to 5, characterized in that the amount polar organic compound to be added in total is between 5 and 100 ppm, based on the amount of urea.
7. A method according to anyone of the claims 1 to 6, characterized in that a polyvinyl additive is used of the general formula $(\text{CHX-CHY})_n$, where $n = 4-10\ 000$, and X and Y independently of one another are selected from the group consisting of a hydrogen atom and a polar organic group.

8. A method according to anyone of the claims 1 to 7, characterized in that an additive is used of the formula specified in claim 7, wherein the said polar organic group is selected from a carboxylic acid group, an ester group, a hydroxyl group, an amine group and an amide group.
9. A method according to anyone of the claims 1 to 8, characterized in that a urea additive is added as described in claim 7 or 8, wherein X is a hydrogen atom and Y substantially consists of a hydroxyl group.
10. A method according to anyone of the claims 1 to 9, characterized in that at least 70%, preferably at least 95%, of Y consists of a hydroxyl group.
11. A method according to anyone of the claims 1 to 10, characterized in that an aqueous solution of the urea additive having a concentration of from 0.5 to 25 wt% is used.
12. A method according to anyone of the claims 1 to 11, characterized in that an aqueous solution of the urea additive having a concentration of from 1 to 20 wt% is used.
13. A method according to anyone of claims 1 to 12, characterized in that an aqueous solution of the urea additive having a concentration of from 100 to 10 000 ppm, preferably from 500 to 3 000 ppm, is used.
14. Composition to be used in the method according to anyone of the preceding claims as a urea additive.